DOCUMENT RESUME

ED 352 382 TM 019 279

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TITLE The Effects of Testing on Teaching and Learning.
INSTITUTION National Center for Research on Evaluation, Standards, and Student Testing, Los Angeles, CA.
SPONS AGENCY Office of Educational Research and Improvement (ED), Washington, DC.
REPORT NO CSE-TR-327
PUB DATE Nov 90
CONTRACT G0086-003
NOTE 82p.
PUB TYPE Reports - Research/Technical (143)

EDRS PRICE MF01/PC04 Plus Postage.
DESCRIPTORS Achievement Gains; Curriculum Development; *Educational Attitudes; Educational Quality; *Elementary School Teachers; Elementary Secondary Education; *Learning; Norm Referenced Tests; Questionnaires; Scores; *Secondary School Teachers; Standardized Tests; *Teacher Attitudes; Teaching Methods; Test Results; *Test Use; Test Wiseness
IDENTIFIERS Teacher Surveys; *Testing Effects

ABSTRACT

A study was conducted to determine the effects of testing on teaching and learning, focusing on standardized norm-referenced tests. A questionnaire was administered to 85 kindergarten through grade 12 teachers from a large urban school district who were attending a teacher leadership workshop. Fifty-five respondents were from elementary schools, and 30 were from secondary schools. The 131-item questionnaire obtained data on the following parameters: (1) teacher and student backgrounds and the school context; (2) test-taking strategies and test preparation; (3) testing's impact on instructional objectives, content taught, staff professionalism, and interference with sound instructional practices; and (4) teachers' attitudes toward testing. Results suggest that there is significant pressure on teachers to improve test scores and that significant teacher attention and instructional time is devoted to testing. Teachers did not report that an emphasis on testing is narrowing the curriculum, but there is some evidence that testing is interfering with the teachers' abilities to attend to the finer points of instruction. Teachers perceived themselves as giving some attention to everything, and they felt that they teach both basic skills and higher-order thinking skills. The study finds no clear relationship between reported test score trends and time and attention to testing. There is some indication of lower morale in schools with declining scores, but there is also a positive climate in schools with increasing scores. Seventeen tables present survey findings. (SLD)

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ED352382

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THE EFFECTS OF TESTING ON TEACHING AND LEARNING

CSE Technical Report 327

Joan Herman, Jeanne Dreyfus and Shari Golan

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- University of Colorado
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November, 1990

The research reported herein was conducted with partial support from the U.S. Department of Education, Office of Educational Research and Improvement, pursuant to Grant No. G0086-003. However, the opinions expressed do not necessarily reflect the position or policy of this agency and no official endorsement by the agency should be inferred.

The Effects of Testing on Teaching and Learning

Testing has assumed a prominent role in recent efforts to improve the quality of education. Viewing standardized tests as a significant, positive and cost-effective reform tool, educational policymakers have been using them at an increasing rate. The testing process now costs hundreds of millions of dollars and thousands of hours of administrative, teacher and student time.

The reasons for the increased use of testing are many. Following advice from testing advocates, policymakers believe that testing sets meaningful standards to which school systems, schools, teachers, and students can aspire; that test data can help shape instruction; that it serves important accountability purposes; and that coupled with effective incentives and/or sanctions, testing is a powerful engine of change. As evidence of the latter, proponents point with pride to rising test scores.

Yet while testing is thought by many to benefit education in a variety of ways, and recent policy anoints it as a major carrier of reform and change, the validity and value of traditional standardized forms of testing are subjects of increasing debate. Recent studies raise questions about whether improvements in test score performance actually signal improvement in learning (Cannell, 1987; Linn, Grave and Sanders, 1989; Shepard, 1989). Other critics take issue with the narrowness of content of such tests, their match with curriculum and instruction, their

neglect of higher level thinking skills, and the relevance and meaningfulness of their multiple choice formats (Baker, 1989; Shepard, 1989, Herman, 1989). According to these and others, rather than exerting a positive influence on students' learning, testing has trivialized the learning and instruction process, has distorted the curriculum, and usurped valuable instructional time for some students. (Smith, Edelsky, Draper, Rotytenber, and Cherland; Romberg, Zarinnia, and Williams, 1989; Bracey, 1989; Stake, 1988; Dorr-Bremme and Herman, 1986)

Testing, thus, has produced important yet debatable changes in our educational system and numerous studies have looked at some of these changes in depth. Those that are pertinent to this study are reviewed below.

New Driving Frameworks

Changes in the educational environment in the last twenty years have reshaped the conceptual frameworks and major themes that researchers consider when they study testing and its effects. Increased government funding to schools and growing public concern about the quality of education in the U. S. have raised the level of accountability for all involved--teachers, administrators and state educational personnel. This increased accountability has had two major effects. It has increased the "stakes" or the consequences of testing and it has also fostered the concept of measurement-driven instruction.

Testing in many states and schools districts is now a "high" stakes process. Testing is defined as high stakes when test results are thought to influence important decisions which state and local administrators make about such things as curriculum, program appropriations, student promotion, and teacher evaluation (Popham, 1987; Madaus, 1987; Romberg, Zarrinnia, Williams, 1989). The push for educational equality and excellence, increased federal financial aid to schools, and a greater public sentiment for accountability have all contributed greatly to raising the stakes of testing.

"High stakes" testing also reveals a new view of the role of measurement and testing in instruction. In the past, tests were not expected to affect curriculum or alter instruction. They served as a general barometer of educational quality. Today, though, the value of linking teaching to measurement--measurement-driven instruction (MDI)--is a hot topic. (Bracey, 1987; Popham, 1985, 1987) Testing itself is viewed as a reform and policy intervention. Those who embrace it argue that not only is it a cost-effective way to improve instruction, but it is needed to bring order to the haphazard situation that exists because of the proliferation of high-stakes testing that exerts significant influence on classroom learning. (Popham, 1987)

Critics of MDI say that it reverses the "normal order of things" and trivializes learning. (Bracey, 1989, pp. 684-685) Because measurement-driven instruction addresses specific

instructional objectives that can be easily assessed, opponents also believe that it fragments learning and may miss significant learning outcomes. According to Richard Richardson, a University of Arizona professor, and his colleagues MDI objectives promote "bitting"--little bits of information are parcelled out to students because that is what the MDI tests measure.

These same critics also believe that MDI deflects or shifts the focus of instruction to those things which are easily assessed, rather than significant knowledge acquisition and development of high level skills. They further believe that this shift trivializes the objectives that are tested, translating learning goals into multiple choice test questions. Higher order learning skills, in short, are given short shift. (Richardson, pp. 43-49)

Time on Testing

Dorr-Bremme and Herman (1986) found that for elementary school children "testing across the curriculum consumed eight to ten percent of students' available curriculum time." (Dorr-Bremme and Herman, p. 23). This study looked at all types of testing, from state and district mandated tests to teachers' classroom tests. Smith, et al., in her study of two "high stakes" elementary schools (1989), found "somewhere between three and four weeks of school time" was spent on testing, and test preparation. (Smith, et al., p. 267) This

did not include the time teachers and students spent on internal, teacher prepared tests.

The nearer in time to the test, the more time spent on direct test preparation. Twenty-eight percent of the teachers in Smith, et al.'s study (1987) started two or more months before the test and an additional twenty-two percent started the week before. Ninety percent of the teachers in the study we involved in test-taking practice during the test week itself. (Smith, et al., 1989, p. 284.)

Time spent on testing also appears affected by the number and type of tests given. In their study of the effects of mandated testing on math instruction, Romberg, et al. (1989), found that California teachers allocated instructional time according to which mandated test they had to administer. In their case, more time was spent on preparing for district tests than for the CAP test (California State Assessment Program). The teachers in their study also used the district test information much more than CAP information. They used district test results to group students and assign them to special programs, inform parents, and gauge themselves and their instructional program. (Romberg, et al., 1989, pp. 86-87, Appendix L).

How Testing Affects the Schools

Beyond impacts on instructional time, several researchers have examined how testing affects the school by looking at how it affects those involved--including

administrators, teachers and students. In addition, they have examined how testing affects classroom organization, curriculum decisions, teacher evaluation, and the overall learning environment. In their national study of elementary and secondary school teachers, Dorr-Bremme and Herman (1986) found that in eight major school decisions or tasks (e.g., curriculum, student promotion, teacher evaluation), teachers' classroom testing provided more important information than any other types of test. They also found that "teachers' opinions, judgments, and recommendations clearly carry more weight than any type of test results." (Dorr-Bremme and Herman, pp. 32-33) Yet, studies done more recently point to a change in the effects of testing--especially in decisions concerning curriculum and instruction. (Smith, et al., 1987; Corbett & Wilson, 1988; Shephard, 1989)

Depending on your viewpoint, standardized testing coupled with increasing accountability pressures has prompted either an interest in or a concern about the linking of test content with curriculum taught. (Popham, 1985, 1987; Richardson, 1985; Bracey, 1987) The evidence regarding how often and to what extent this occurs is inconclusive. In their review, MacRury, Nagy and Traub (1987) found that there was little or no impact on curriculum with the introduction of large-scale assessment programs. (p. 13) Similarly, in their study on the influence of mandated testing on mathematics instruction (1989), Romberg, Zarinnia and Williams also found that the majority of the five hundred and

fifty-two teachers involved "do not increase or decrease their instructional emphasis because of the test nor do they consider the style and format of test items when planning their own instruction." (Romberg, et al., 1989, p. 33). This finding is also supported by the work of Ruddell (1985) in seven California districts. Sixty-one percent of the teachers involved in the study stated that standardized tests had little effect on what they taught.

Other studies, though, have yielded data which support the belief that standardized testing has influenced curriculum. Madaus (1988) found that if teachers believed that important decisions were tied to test scores, the teachers will teach to the test. The work of Smith and her colleagues (1987) supports this conclusion and examines in detail how curriculum is affected. Smith, et al. (1987) found in the elementary schools they studied that "in high stakes environments, schools neglect material that the external tests do not include...reading real books, writing in authentic contexts, solving higher-order problems, creative and divergent thinking projects, longer-term integrative unit projects, computer education and such are gradually squeezed out of ordinary instruction." (Smith, et al., p. 268) They cited science as an example of a nontested subject whose teaching had been negatively affected by the pressure to cover tested materials. They found that science, for example, "at the intermediate grades looks more like reading all the time." (Smith, et al., p. 268) Teachers

felt that setting up science activities took too much time and as testing neared, the subject was dropped entirely to make way for test preparation. The elementary school teachers in Dorr-Bremme and Herman's study (62%) also believed that minimum competency requirements either already had or would adversely affect the amount of time spent on teaching subjects not included in the tests.

In their study of a high-stakes environment of mandatory minimum competency testing in Maryland and Pennsylvania, Corbett and Wilson (1988) had similar results. Curriculum was significantly impacted. Maryland schools, for example, in their attempt to improve scores, altered the curriculum, "especially in terms of redefining course objectives and resequencing course content." (Corbett and Wilson, 1988, p. 30)

Standardized testing is also affecting instructional techniques. In their desire to give adequate test preparation, teachers train the students in testing formats. Smith at al., (1987) found that teachers were using worksheets that duplicated the question layout of a standardized test. Teachers in their study used math drills and frequently administered timed tests. Spelling was taught and tested in a format similar to that which appeared on mandated tests. (Smith, et al., 1987)

In addition to studying the effects testing has on curriculum, many studies have examined the effects that testing has on staff. Mandated testing creates tension.

Corbett and Wilson (1988) found that "Maryland teachers were reported to be under greater stress...and to have experienced decreased reliance on their professional judgments than teachers in Pennsylvania." (where there was not a direct attempt to raise scores) (Corbett and Wilson, p. 30) In her study of test score gains (1989), Shephard found that those involved in education had heard that dismissal of principals and/or superintendents had been tied to test results. In fact, this seldom happened, but the belief that it did caused anxiety for principals and staff.

Those studies that looked at student changes found that testing could have both over-all and specific negative effects on students. Primary grade teachers in Smith, et al's. study felt that "tests injure the pupils' psychological well-being and sense of themselves as competent learners." (Smith, et al., 1987, p. 217). They also cited a whole litany of negative effects during test week. For example, the teachers saw a rise in student truancy, stomach symptoms, worry, vomiting, crying, wetting, headaches and refusal to take the tests. (Smith, et al., 1987, p. 284)

There are indications that testing impact may be highly related to socioeconomic statistics. Dorr-Bremme and Herman found that, compared to high SES schools, administrators in lower SES schools were more influenced by formal tests results--"especially minimum competency measures and district objectives-based tests"--when making key decisions such as

curriculum planning, funding allocations and reporting test results to the public. (Dorr-Bremme and Herman, 1986, p. 34)

Testing Practices and Sources of Pressure

Administrators--both district and school-site--play a pivotal role in shaping the school testing environment. They can take a "top-down" approach and dictate what the curricula should be, and how the teachers should prepare the students for the test. On the other hand, they can provide some degree of guidance, in-service and resource materials but let the teachers shape the curriculum and decide what type of test preparation is best for the students. (Glickman, 1987) Whichever course they choose, their influence is apparent. Eighty percent of the teachers in Smith, et al.'s study (1987) said that they "were encouraged (by administrators) to raise test scores." (Smith, et al., 1987, p. 283) Seventy-five said that principals and district administrators also wanted them to teach test-taking skills.

In Shepard's study (1989) on test score gains, state testing directors reported that "presentation of test results to the state board is a media event" and that this coverage was the "most pervasive source of high-stakes pressure." (Shepard, p. 7; Corbett, Wilson, 1988) Where there is press coverage of test results, there is also editorializing. The pros and cons of the educational system are discussed in the public forum.

Many administrators agree that the public has a right to know about the status of educational achievement. In 1979, Michigan's educational directors made changes to its statewide testing program based on several "need to know" concepts. Among them were that the public has a right to know about the achievement levels of students in public schools and that they should be informed about the level of remediation when achievement scores are low. (Roeber, Donovan, Cole, 1980). In addition, they firmly believe that the news should come from the educational system and that results should not be "discovered" by the press.

Yet, this public pressure can have adverse effects. For a few, teaching to the test has turned into teaching the actual test and some districts have had to cope with outright cheating. In 1974 in New York City, for example, all schools were ranked on the basis of reading scores. Buckling under this pressure a few New York schools obtained the mandated test and used it to prepare students prior to the testing date. The "allegation was made that students, teachers and parents" were all aware. (Polemeni, 1977, p. 34)

In a March 13, 1990 Wall Street Journal article on toughening school testing, Arnold Fege, a lobbyist for the National Parent-Teacher Association, expressed educators' fear about testing. "What we're scared of is that we're going to do so much testing and so much assessing, we aren't going to have time to do any learning." (Putka, p. B1)

The study which follows seeks to clarify the debate about the effects of testing. It focuses on standardized, norm-referenced tests. The study employs an extensive teacher questionnaire and uses the data to assess the impact of these tests in several areas.

Methodology

The questionnaire study which follows was designed to answer the following questions:

1. What are the effects of mandated, norm-referenced testing on curriculum and teaching?
   - Does it influence what is taught?
   - Does it influence how it is taught?
   - What is the nature of test preparation?
2. What variables mediate these effects?
   - Teacher background and attitudes
   - School action
   - Pressure to improve test scores
3. To what extent do the results of testing represent school improvement?
   - To what extent do they represent changes in demographics?
   - How do educators perceive the reasons for the change--or lack thereof?

Subjects

The subjects were 85 kindergarten through twelfth grade teachers from a large urban school district who voluntarily chose to answer the questionnaire. They were part of a larger group attending a teacher leadership institute where the questionnaire was distributed. Fifty-five respondents were from elementary schools and thirty were from secondary schools. The teachers at both levels were experienced with an average of seventeen years in the classroom and eight years in their current school. Thirty-five subjects taught classes which had 0 to 25% Chapter I students, while 42 of them had 76% or more Chapter I students in their classes. (see Table 1 for details) A serious caveat of this study is that it is based on a small sample which may not be representative of the larger population of public school teachers.

Questionnaire

A teacher questionnaire containing 131 items was developed by the authors for this study. The questionnaire has four components with several sub-sections. The first component asks about teacher and student background and the school context in which testing takes place. The second part is concerned with test-taking strategies and test preparation practices. It inquires about the degree of focus on test content and test-taking skills and looks at staff development activities for test preparation. Component three deals with

testing's impact on instructional objectives, content taught, staff professionalism, and the degree of interference with sound instructional practices. The last questionnaire component looks at teachers' attitudes about testing, particularly their perception of why scores increase or decrease, of the controllability and stability of test scores and of the validity of test scores as a sign of academic achievement and school improvement.

Questionnaire results were analyzed by school level (elementary, secondary) and by the SES levels of the students served. For the purposes of these analyses, low SES was defined as those with at least 80% Chapter One students; high SES was defined as less than 20% Chapter One. Thus, in the analyses which follow, low SES and high SES do not constitute the entire sample. The whole sample, including the middle group, is captured in the "overall" means.

Findings

This study focuses on several important questions about the effects of testing. What are the actual effects of testing on curriculum and instruction? Who or what mediates the effect and to what extent? How much attention do school administrators and teachers pay to the testing process and test scores? What changes in instructional practices and activities, job climate and causes of test score movements have occurred over the last three years? And, what are teachers' attitudes toward testing and how are they affected

by the pressure to increase their students' test scores? The findings of this study supply some answers to these questions.

1. To What Extent Do Teachers Feel Pressure to Improve Test Scores?

Overall, teachers feel that the media, district school boards and administrators and principals exert the most pressure on them to improve test scores. Teachers serving low SES students report stronger pressure from these groups than do those serving higher SES students. Parents and the community were viewed as low sources of pressure for improvement. (see Table 2 for details)

2. How Much Attention Do Schools Give to Test Scores?

In general, elementary schools pay more attention to test scores than secondary schools do and their administrations engage in repeated activities with their teachers to review, monitor and improve test scores. Specifically, low SES elementary schools give the most attention to test results. In these schools, there are noticeably more, though infrequent, comparisons of teachers based on their students' test performance, and administrators (more than a few times) discuss with their teachers ways to improve scores and strengthen instruction in weak areas.

Typically, low SES elementary schools also provide teachers with practice test-taking materials more than once over the course of the year. Both secondary and elementary schools seldom consider test scores when evaluating teachers. (see Table 3 for details)

3. How Does School Attention to Test Scores Compare to Attention to Other Important Educational Issues such as New Instructional Ideas, Higher Order Thinking Skills and Student Attitudes Toward Learning?

Table 4 shows that the attention is roughly comparable. Note the repeated and relatively more frequent attention to higher order thinking and new instructional ideas in the low SES elementary group compared to other respondents. (See Table 4 for details.)

4. What is the Influence of Testing on Teachers' Instructional Planning?

To some extent, elementary school teachers, whether serving high or low SES students, review the test's objectives and the content and skills covered in the tests; look at old or current test to make sure their curriculum includes the test's content; and adjust their instructional plans based on their current students' most recent scores. While secondary schools pay somewhat less attention to test

results in their planning, we see strong differences between high and low SES at this level. Secondary teachers serving disadvantaged students show patterns generally similar to elementary school teachers. (see Table 5 for details)

5. How Much Class Time do Teachers Spend on Test Preparation?

In elementary schools, teachers spend the equivalent of several weeks in instructing students on test-taking strategies; give students about a week's worth of practice with test-item formats, and engage them in worksheets which review test content for several days to a week. Secondary teachers spend slightly less time on each type of preparation. Elementary teachers and secondary teachers serving low SES students report spending more time overall on test preparation than do secondary teachers serving higher SES students. Teachers on both levels seldom give students old forms of the test on which to practice, but do generally use commercially developed practice materials. (see Table 6 for details)

6. What are Teachers Attitudes about Testing?

Expectations. Both elementary and secondary teachers have moderate to strong expectations that their students will do well on their standardized test. Secondary teachers

teaching low SES students are the most positive on this dimension and as shown by the standard deviation, the most "consistent" (i.e., in agreement). On other indicators, teachers at both levels tended to modestly agree that they could influence their students' test scores. (see Table 7 for details)

Pride. All groups felt that teachers at their schools have a strong sense of pride in their work, particularly those serving higher SES students. And all groups tended to moderately disagree with the idea that schools were more interested in improving test scores rather than overall student learning. (see Table 7 for details)

Helpfulness. Overall, elementary school teachers, especially those serving low SES students, do not believe that testing is helping schools improve or clarify important learning goals, nor do they feel that it gives important feedback. Secondary teachers show similar, though slightly less pessimistic, views. While almost all feel that testing creates tension for them and their students (there were only a few negative responses to this item), the elementary school sample expressed stronger and more universally negative feelings. (see Table 7 for details)

Fairness. None of our subjects perceived the tests as particularly fair. While all groups were somewhat neutral to slightly positive about whether they can substantially influence how well their students do, they do not generally believe that changes in test scores are reflective of their

teaching. Furthermore, teachers at all levels were consistent in the belief that there is a discrepancy between what should be taught and what the test emphasizes. (see Table 7 for details)

The next set of questions and analyses examine differences in responses depending on whether teachers teach in schools where test scores are going up, declining, remaining the same, or fluctuating. To get a sense of the extent to which these score trends are confounded with SES and school level, table 8 shows the distribution. Here we see that teachers reporting increasing scores are relatively more likely to be low SES elementary schools while in our sample teachers reporting decreasing scores were relatively more likely to be in high SES elementary or secondary schools.

7. What Do Teachers Perceive as the Causes of Test Score Changes by Test Score Trends Over the Last Three Years?

Table 9 shows that teachers whose students' test scores have decreased or fluctuated over the last three years believe the cause to be more than moderately related to changes in student population, in school climate and in the community. Teachers whose students' scores have increased over the last three years, in contrast, believe that changes in teaching effectiveness have been a moderate factor (i.e., if scores get worse, it's due to changes in the environment;

if they get better, it's because their teaching is more effective). And, no matter what the status of test score changes, change in test administration practices was the least influential factor for all. Other conclusions are difficult to draw since the average ratings for the other factors were in a tight range from about 2.4 to 2.9. (see Table 9 for details)

8. How is Pressure to Improve Test Scores Related to Test Score Trends?

Teachers whose students' scores are decreasing feel greater pressure from a multitude of sources than do other teachers in our sample. (see Table 10 for details)

9. How is School Attention to Test Scores Related to Test Score Trends?

Schools in all test score trend groups report more frequent attention to basic skills instruction than to higher order thinking skills, particularly those in schools where scores are fluctuating or remaining the same. It is interesting to note that attention to these two areas is closest in schools where scores have shown an increase. (see Table 11) No clear differences in test score trend groups emerged in other indicators of school attention to testing.

10. How is Time Teachers Spend on Test Preparation Related to Test Score Trends?

Teachers with decreasing student test scores engage more often in various types of test preparation activities than any other test score trend group. In particular, they spend the most time, equivalent to almost a month, teaching test-taking strategies and a few weeks giving practice in the different test item formats. They also spend time giving students worksheets that review expected test content and, for at least a few days, use commercially produced practice tests with their students. These same teachers spend little time, about a day, giving students old test forms on which to practice. (see Table 13 for details)

11. How is the Extent of Instructional Renewal in Schools Related to Test Score Trends?

Instructional renewal is greater in schools with increasing scores than it is in schools with decreasing scores. In addition, for improving schools many aspects of this renewal have increased over the last three years, while for declining schools instructional renewal activities have remained the same. Teachers in our study whose scores were increasing, for example, see at least moderate attention to student interest in learning, stronger and increasing support for school wide or grade level planning, greater and

increasing programmatic efforts to improve student learning and more implementation of innovative instructional strategies than do teachers working in decreasing score schools. (see Table 14 for details)

12. How Is Attention to Other Academic Subjects Related to Score Trends?

With the exception of teachers whose test scores are increasing, all of the study's participants spend "a lot" of time drilling students in basic skills and give at least moderate attention to higher order thinking skills. The pattern for attention to both basic skills and higher order thinking skills has remained the same over the last three years.

Overall, teachers in our study said that subjects which are not included in the test receive moderate attention. Differences do exist by score trend in the amount of attention given to science. Those with decreasing or fluctuating scores give the most attention to science, while those with constant scores give the least. (Teachers with increasing scores fell in the middle but indicated that the amount of attention given to science has increased over the last three years.) Finally, teachers whose scores are decreasing clearly give the most time to test preparation. (see Table 15 for details)

13. How is Degree of Teacher Job Satisfaction Related to Score Trends?

Overall, teachers with decreasing student scores have the least amount of job satisfaction. This group believes that their ability to meet individual student needs has decreased over the first three years and of all score trend groups, the image of teacher as efficient educator is the least apparent in their schools. Yet, across the board, they and their peers in this study perceived that teachers' influence on school decision-making has increased over the last three years and, overall, they see themselves as have strong control over their classroom programs. (See Table 16 for details)

14. What Significant Correlations Exist Among School Characteristics, Teacher Attitudes, and Testing Variables?

We found that there are several significant correlations ($p=.05$) between overall pressure, overall time spent on test preparation, the number of Chapter I students and the effects of testing.

Pressure. Our data indicate that overall pressure to improve test scores has a positive correlation with overall school attention to test scores. It also is correlated with testing's overall influence on instructional planning and with overall time spent on test preparation. There is also a

negative correlation between overall pressure and teachers' perceived control over their classroom instructional program and their overall pride in teaching. (see Table 17 for details)

Planning Influence. Testing's influence on planning has a positive correlation with overall time spent in test preparation and the pressure to cover all required curriculum. It has a negative correlation with teachers' perceived control over their classroom instructional program. (see Table 17 for details)

Chapter I students. The number of Chapter I students and the effects of testing also are related. There is a positive correlation between the number of Chapter I students and overall pressure to raise test scores. The number of Chapter I students is also correlated positively with school attention to test scores, overall time spent on test preparation and pressure to cover all required curriculum. Conversely, there are negative correlations between the number of Chapter I students and overall pride in teaching and overall job satisfaction. (see Table 17 for details)

Conclusion

The purpose of this exploratory study was to examine the impact of standardized, nationally normed tests on curriculum and instruction and to ascertain what variables mediate the impact. Given the sample, our conclusions necessarily are very tentative. The study finds significant pressure on

teachers to improve test scores and significant school and teacher attention and instructional time devoted to testing. Certainly not surprising. However, one interesting finding is that the teachers did not report that emphasis on testing is narrowing their curriculum, as indicated by the attention they give to higher level thinking skills, subjects not tested, etc. There is some evidence, though, that testing is interfering with teachers' ability to attend to the finer details of instruction, i.e. attention to individual students, use of innovative instructional strategies and opportunities for student choice in what to study. Furthermore, given the sheer time and attention to testing, one wonders whether something necessarily gets short changed.

Our data suggest that teachers perceive themselves as giving some attention to everything, i.e., preparing students for the standardized test as well as teaching the required curriculum, the fine arts, science, and other subjects not tested. They also feel that they teach both basic skills and higher order thinking skills. And they indicated that although they do drill, they also engage their students in project and small group work. If this is representative of today's trend, the question is how long can teachers keep up this pace? Furthermore, when the next reform appears, how will they incorporate it into their already full teaching load and continue spending significant time and attention on testing without displacing something else? The implications

of these questions for students, especially disadvantaged students, need to be given greater attention.

Finally, the study finds no clear relationship between reported test score trends and time and attention to testing. While there was some indicating of lower morale in schools with decreasing scores, it is interesting to note the positive climate and innovation in those with reported increasing scores.

The findings reported here are the result of a pilot study. The issues it raises will be more fully explored with a controlled and representative sample of teachers.

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TABLE 1

Survey Sample

A. Teachers By School Level

Elementary	Secondary	Total
N=55	N=30	85

B. Secondary Teachers By Subject Taught

Math	English	Social Studies	Science
N=7	N=12	N=11	N=5

C. Years of Teaching Experience By School Level

	1-3	4-6	7-9	10 & Up	$\overline{X}$ Years
Elementary	N=3	N=7	N=4	N=41	17.03
Secondary	N=0	N=6	N=3	N=21	17.23

TABLE 1 (Cont'd.)

D. Years Teaching at Current School By School Level

	1-3	4-6	7-9	10 & Up	$\overline{X}$ Years
Elementary	N=14	N=17	N=7	N=17	8.3
Secondary	N=3	N=13	N=8	N=6	8.2

E. Student Characteristics By School Level

Percent of Chapter I Students

	0-25%	26-50%	51-75%	76-100%	$\overline{X}$ %
Elementary	N=26	N=2	N=3	N=24	42.15
Secondary	N=9	N=0	N=3	N=18	50.87

Percent of Limited English Proficiency Students

	0-25%	26-50%	51-75%	76-100%	$\overline{X}$ %
Elementary	N=18	N=11	N=10	N=16	44.26
Secondary	N=11	N=5	N=7	N=7	38.77

TABLE 2

Pressure on Teachers to Improve Test Scores
By School Level and Socioeconomic Status

	Elementary (K-6)			Secondary (7-12)		
	High SES n=26	Low SES n=21	Overall n=55	High SES n=9	Low SES n=10	Overall n=30
District administrators/ school boards	3.19 (1.62)	3.85 (1.19)	3.43 (1.46)	2.44 (1.13)	3.33 (1.73)	3.20 (1.42)
Principal	2.42 (1.36)	3.14 (1.35)	2.87 (1.46)	2.55 (1.33)	3.66 (1.22)	3.13 (1.35)
Other school administrators	2.45 (1.61)	3.36 (1.30)	2.84 (1.51)	2.55 (1.50)	3.88 (.92)	3.24 (1.30)
Other teachers	1.45 (.58)	2.04 (1.19)	1.71 (.90)	1.11 (.33)	3.00 (1.30)	1.82 (1.15)
Parents	2.34 (1.32)	2.42 (1.53)	2.29 (1.35)	2.00 (1.73)	2.00 (1.00)	2.20 (1.34)

1=Almost No Pressure 3=Moderate Pressure 5=Great Pressure

TABLE 2 Pressure on Teachers to Improve Test Scores
By School Level and Socioeconomic Status (Cont'd.)

	Elementary (K-6)			Secondary (7-12)		
	High SES n=26	Low SES n=21	Overall n=55	High SES n=9	Low SES n=10	Overall n=30
Community	2.38 (1.38)	2.66 (1.59)	2.40 (1.42)	1.88 (1.45)	1.77 (.83)	2.17 (1.28)
Newspaper/Media	2.95 (1.57)	3.80 (1.19)	3.25 (1.45)	3.00 (1.93)	2.66 (1.41)	3.17 (1.67)
Overall pressure	16.69 (6.96)	20.81 (7.12)	18.30 (7.14)	15.55 (6.78)	20.00 (5.72)	18.89 (6.57)

1=Almost No Pressure 3=Moderate Pressure 5=Great Pressure

TABLE 3

School Attention to Test Scores
by School Level and Socioeconomic Status

	Elementary (K-6)			Secondary (7-12)		
	High SES n=26	Low SES n=21	Overall n=55	High SES n=9	Low SES n=10	Overall n=30
*Lets teachers know how students compared to others	2.19 (1.32)	2.66 (1.59)	2.49 (1.50)	1.55 (1.33)	1.90 (1.19)	1.93 (1.20)
*Considers test scores to evaluate teachers	1.40 (.91)	1.50 (.76)	1.56 (95)	1.22 (.66)	1.50 (.70)	1.41 (.73)
Staff meetings to review test scores	2.36 (.63)	2.66 (.85)	2.53 (.74)	1.88 (.78)	2.50 (.97)	2.10 (.88)
Discusses ways to improve scores	2.80 (.80)	2.95 (.80)	2.85 (.84)	2.66 (1.00)	2.80 (1.03)	2.56 (.93)
Discusses ways to strengthen instruction where scores are low	2.92 (.84)	3.04 (.92)	2.96 (.88)	2.00 (1.00)	2.66 (1.22)	2.31 (1.07)
Provides test-taking skills materials	2.16 (1.06)	2.85 (.85)	2.48 (1.02)	1.88 (1.05)	2.66 (1.32)	2.34 (1.14)

* 1=Almost Never 3=Sometimes 5=Almost Always

1=Not At All 2=Once 3=A Few Times 4=Several Times

TABLE 3 School Attention to Test Scores by School Level and Socioeconomic Status (Cont'd.)

	Elementary (K-6)			Secondary (7-12)		
	High SES n=26	Low SES n=21	Overall n=55	High SES n=9	Low SES n=10	Overall n-30
Assists individual teachers to improve scores	1.45 (.83)	1.85 (.91)	1.62 (.86)	1.11 (.33)	1.60 (1.07)	1.43 (.89)
Checks whether teachers emphasize weak skills	2.12 (1.20)	2.15 (1.26)	2.18 (1.19)	1.00 (.00)	1.66 (.86)	1.35 (.67)
Overall school attention to test scores	17.13 (4.11)	19.78 (5.71)	18.62 (5.08)	13.33 (4.52)	17.66 (4.5)	15.37 (5.03)

1=Not At All 2=Once 3=A Few Times 4=Several Times

TABLE 4

School Attention to Other Planning Issues
by School Level and Socioeconomic Status

	Elementary (K-6)			Secondary (7-12)		
	High SES n=26	Low SES n=21	Overall n=55	High SES n=9	Low SES n=10	Overall n-30
Discusses ways to improve higher order thinking skills	2.538 (1.174)	3.095 (.831)	2.673 (1.037)	2.000 (1.225)	2.333 (1.000)	2.276 (1.032)
Discusses ways to improve student attitude	2.[illegible] (.993)	2.875 (1.014)	2.836 (.977)	3.000 (.707)	2.667 (8.66)	2.724 (.882)
Introduces new instructional ideas	2.962 (1.076)	2.905 (.831)	2.909 (.948)	2.333 (1.225)	2.778 (1.093)	2.464 (1.071)

1=Not At All 2=Once 3=A Few times 4=Several Times

TABLE 5

Influence of Testing on Teachers' Instructional Planning
by School Level and Socioeconomic Status

	Elementary (K-6)			Secondary (7-12)		
	High SES n=26	Low SES n=21	Overall n=55	High SES n=9	Low SES n=10	Overall n-30
Test content reviewed	2.923 (1.230)	3.524 (.873)	3.109 (1.100)	2.000 (1.414)	2.778 (.972)	2.643 (1.471)
Test objectives covered in instruction	3.346 (1.325)	3.524 (1.030)	3.436 (1.167)	2.778 (1.394)	3.556 (1.344)	3.357 (1.446)
Adjusts plans according to last year's test scores	2.538 (1.067)	2.810 (1.209)	2.709 (1.066)	1.889 (1.304)	2.111 (1.269)	2.179 (1.307)
Adjusts plans according to current year's test scores	3.231 (1.275)	2.810 (1.209)	3.109 (1.227)	1.667 (1.118)	2.556 (1.424)	2.321 (1.335)
Adjusts curriculum sequence according to test	2.346 (1.093)	2.667 (1.278)	2.509 (1.215)	1.889 (1.364)	2.667 (1.323)	2.393 (1.343)
Overall influence of testing on teachers' planning	17.231 (6.408	18.381 (5.590)	17.745 (5.784)	12.222 (6.870)	17.111 (5.689)	15.821 (7.097)

1=Not At All 3=To Some Extent 5=Thoroughly

TABLE 6

Class Time Spent on Test Preparation
by School Level and Socioeconomic Status

	Elementary (K-6)			Secondary (7-12)		
	High SES n=26	Low SES n=21	Overall n=55	High SES n=9	Low SES n=10	Overall n=30
Gives worksheets that review test content	2.923 (1.958)	3.952 (1.774)	3.407 (1.858)	1.889 (1.691)	3.333 (1.871)	3.214 (2.079)
Practices on test item format	3.962 (2.010)	4.429 (1.630)	4.167 (1.788)	3.000 (2.449)	3.778 (1.641)	3.679 (2.074)
Gives commercial practice tests	2.385 (1.813)	2.714 (1.521)	2.556 (1.621)	1.444 (.882)	2.000 (1.658)	2.429 (2.026)
Practices on old test forms	1.560 (1.446)	1.667 (1.278)	1.528 (1.280)	1.000 (.000)	2.444 (2.128)	2.107 (1.812)
Teaches test-taking strategies	4.269 (1.867)	4.905 (1.640)	4.426 (1.733)	4.000 (2.179)	4.111 (1.691)	4.286 (1.863)
Overall time spent on test preparation	15.038 (7.247)	17.667 (5.660)	16.056 (6.359)	11.333 (5.315)	15.667 (7.483)	15.714 (7.547)

1=None 2=At Most a Day 3=A few Days 4=A Week

5=Four Weeks 6=Regularly Throughout the Year

TABLE 7

Teachers' Attitudes About Testing by School Level and Socioeconomic Status

	Elementary (K-6)			Secondary (7-12)		
	High SES n=26	Low SES n=21	Overall n=55	High SES n=9	Low SES n=10	Overall n=30
Expectations						
Expects students to perform well	4.11 (1.24)	3.61 (.86)	3.94 (1.09)	3.77 (.83)	4.40 (.69)	4.10 (.96)
*Students not capable of learning material	2.92 (1.80)	2.33 (1.35)	2.66 (1.60)	3.33 (1.58)	1.70 (1.16)	2.50 (1.48)
Teachers can influence how well students do	3.50 (1.10)	3.04 (1.32)	3.25 (1.17)	3.66 (1.58)	3.50 (1.17)	3.80 (1.21)
*Students' scores rarely change	2.20 (1.00)	2.47 (1.03)	2.31 (.98)	3.00 (1.30)	3.00 (1.05)	3.03 (1.14)
Overall positive expectations	14.6 (2.95)	13.85 (3.32)	14.25 (3.07)	13.00 (3.25)	15.20 (2.15)	14.37 (2.62)

* Scales reversed in overall calculations

1=Definitely Disagree 3=Neutral 5=Definitely Agree

TABLE 7 Teachers' Attitudes About Testing by School Level and Socioeconomic Status (Cont'd.)

	Elementary (K-6)			Secondary (7-12)		
	High SES n=26	Low SES n=21	Overall n=55	High SES n=9	Low SES n=10	Overall n=30
Pride						
Staff has a strong sense of pride	4.57 (.90)	2.15 (1.26)	2.18 (1.19)	1.00 (.00)	1.66 (.86)	1.35 (.67)
*School is more interested in improving test scores than overall student learning	1.70 (1.23)	2.38 (1.39)	2.13 (1.35)	1.66 (1.00)	2.10 (1.28)	2.26 (1.25
Overall pride	9.19 (1.41)	8.38 (1.77)	8.67 (1.70)	8.22 (1.56)	7.80 (1.39)	7.50 (1.75)

* Scales reversed in overall calculations

1=Definitely Disagree 3=Neutral 5=Definitely Agree

TABLE 7 Teachers' Attitudes About Testing by School Level and Socioeconomic Status (Cont'd.)

	Elementary (K-6)			Secondary (7-12)		
	High SES n=26	Low SES n=21	Overall n=55	High SES n=9	Low SES n=10	Overall n=30
Helpfulness						
Testing helps schools improve	2.11 (1.27)	1.42 (.59)	1.80 (1.06)	2.55 (1.23)	2.10 (1.10)	2.33 (1.12)
*Testing creates tension for teachers & students	4.03 (1.03)	4.23 (1.13)	4.12 (1.12)	3.66 (1.11)	3.50 (.97)	3.70 (1.08)
Tests give important feedback	2.53 (1.24)	2.33 (1.11)	2.47 (1.26)	2.00 (1.00)	3.10 (1.44)	2.63 (1.35)
Tests help clarify important learning goals	1.73 (1.04)	1.57 (.81)	1.69 (.99)	2.00 (.86)	2.10 (1.10)	2.16 (1.20)
Overall helpfulness of testing	8.35 (3.6)	7.10 (2.2)	7.84 (3.1)	8.89 (3.0)	9.80 (2.9)	9.43 (3.1)

* Scales reversed in overall calculations

1=Definitely Disagree 3=Neutral 5=Definitely Agree

56

TABLE 7 Teachers' Attitudes About Testing by School Level and Socioeconomic Status (Cont'd.)

	Elementary (K-6)			Secondary (7-12)		
	High SES n=26	Low SES n=21	Overall n=55	High SES n=9	Low SES n=10	Overall n=30
Fairness						
Teachers can influence how well students do	3.50 (1.10)	3.04 (1.32)	3.25 (1.17)	3.66 (1.58)	3.50 (1.17)	3.80 (1.21)
Changes in scores are a reflection of my teaching	2.12 (1.13)	2.52 (1.28)	2.37 (1.20)	2.66 (1.22)	2.80 (.91)	2.86 (1.00)
*Discrepancy between what should be taught & test emphasis	4.00 (.95)	4.38 (.80)	4.20 (.87)	4.11 (1.16)	3.90 (1.10)	3.90 (1.02)
Overall fairness of testing	7.62 (2.06)	7.19 (2.62)	7.41 (2.30)	8.22 (2.38)	8.40 (2.50)	8.76 (2.20)

* Scales reversed in overall calculations

1=Definitely Disagree 3=Neutral 5=Definitely Agree

TABLE 8

Test Score Trends by School Level
and Socioeconomic Status

	Increasing Scores n=14	Decreasing Scores n=16	Same Scores n=20	Fluctuating Scores n=26
Elementary	20.0% n=11	18.2% n=10	18.2% n=10	36.4% n=20
Low SES	38.1% n=8	9.5% n=2	9.5% n=2	33.3% n=7
High SES	3.8% n=1	23.1% n=6	23.1% n=6	42.3% n=11
Secondary	10% n=3	20% n=6	33.3% n=10	20% n=6
Low SES	10% n=1	10% n=1	50% n=5	20% n=2
High SES	0%	22.2% n=2	33.3% n=3	22.2% n=2

TABLE 9

Perceived Causes of Changes in Test Scores
by Test Score Trends

	Increasing Scores n=14	Decreasing Scores n=16	Fluctuating Scores n=26
Changes in student population	1.86 (1.3)	3.19 (.98)	3.23 (.99)
Alignment of instruction with test content	2.64 (.93)	2.44 (1.1)	2.85 (.93)
Attention to test-taking skills	2.71 (.99)	2.38 (1.0)	2.89 (.91)
Changes in instructional strategies	2.86 (.95)	2.56 (1.0)	3.00 (.85)
Changes in textbooks	2.00 (1.1)	2.38 (1.2)	2.60 (.91)
Changes in test administration practices	1.79 (.89)	1.63 (.81)	1.92 (.94)
Changes in teaching effectiveness	3.07 (.73)	2.38 (1.0)	2.89 (.95)
Changes in school climate	2.86 (1.2)	3.25 (.78)	3.27 (.83)
Changes in the community	2.14 (1.3)	3.25 (1.2)	3.12 (.95)

1=No Factor 2=Minor Factor 3=Moderate Factor 4=Major Factor

TABLE 10

Sources of Pressure to Improve Test Scores
by Test Scores Trends

	Increasing Scores n=14	Decreasing Scores n=16	Same Scores n=20	Fluctuating Scores n=26
District administration/school board	3.429 (1.453)	3.688 (1.302)	2.474 (1.307)	3.692 (1.463)
Principal	3.000 (1.177)	3.750 (1.125)	2.263 (1.408)	3.192 (1.415)
Other school administrators	3.077 (1.115)	3.750 (1.065)	2.176 (1.237)	3.208 (1.560)
Other teachers	2.000 (1.291)	2.067 (.884)	1.632 (.831)	1.640 (.995)
Parents	2.071 (1.207)	2.813 (1.515)	1.895 (1.147)	2.231 (1.275)
Community	2.214 (1.424)	2.688 (1.401)	1.895 (1.100)	2.423 (1.528)
Newspaper/media	3.214 (1.424)	3.600 (1.242)	2.474 (1.541)	3.440 (1.583)
Overall pressure	18.643 (6.570)	22.000 (5.774)	14.579 (6.095)	19.385 (7.289)

1=Almost No Pressure 3=Moderate Pressure 5=Great Pressure

TABLE 11

School Emphasis on Other Instruction
by Test Score Trends

	Increasing Scores n=14	Decreasing Scores n=16	Same Scores n=20	Fluctuating Scores n=26
Emphasizes basic skills	3.929 (.997)	3.750 (.775)	4.150 (.745)	4.538 (.706)
Higher order thinking skills	3.857 (1.099)	3.375 (1.025)	3.200 (.894)	3.769 (.863)

1=Almost Never 3=Sometimes 5=Almost Always

TABLE 12

School Attention to Test Scores and Other Areas
by Test Score Trends

	Increasing Scores n=14	Decreasing Scores n=16	Same Scores n=20	Fluctuating Scores n=26
* Lets teachers know how students compared to others	2.286 (1.326)	2.625 (1.408)	2.200 (1.542)	2.269 (1.511)
* Considers test scores to evaluate teachers	1.643 (1.008)	1.933 (1.163)	1.350 (.813)	1.423 (.703)
Staff meetings to review test scores	2.786 (.893)	2.438 (.814)	2.150 (.813)	2.346 (.745)
Discusses ways to improve scores	3.071 (.829)	2.750 (.775)	2.300 (.979)	2.885 (.766)
Discusses ways to strengthen instruction where scores are low	3.143 (.770)	2.875 (.957)	2.158 (.958)	2.885 (1.033)
Provides test-taking skills materials	2.500 (1.092)	2.500 (1.033)	2.158 (.958)	2.538 (1.174)
Assists individual teachers to improve test scores	1.571 (.756)	1.875 (1.147)	1.250 (.639)	1.560 (.870)
Checks whether teachers emphasize weak skills	2.154 (.987)	2.000 (1.095)	1.368 (.955)	2.160 (1.248)
Overall school attention to test scores	19.3 (4.1)	19.1 (5.9)	15.1 (4.9)	17.8 (5.2)

*1=Almost Never 3=Sometimes 5=Almost Always

1=Not At All 2=Once 3=A Few Times 4=Several Times

TABLE 12 School Attention to Test Scores and Other Areas by Test Score Trends (cont'd.)

	Increasing Scores n=14	Decreasing Scores n=16	Same Scores n=20	Fluctuating Scores n=26
Discusses ways to improve higher order thinking skills	2.643 (1.008)	2.250 (1.000)	2.158 (1.015)	2.808 (1.069)
Discusses ways to improve student interest in learning	2.571 (1.016)	2.625 (.885)	2.632 (.955)	2.962 (.958)
Introduces new instructional ideas	2.571 (.852)	2.313 (.873)	2.842 (1.015)	2.885 (1.071)

1=Not At All 2=Once 3=A Few Times 4=Several Times

TABLE 13

Time Spent on Test Preparation
by Test Score Trends

	Increasing Scores n=14	Decreasing Scores n=16	Same Scores n=20	Fluctuating Scores n=26
Gives worksheets to review test content	3.571 (1.950)	3.600 (2.098)	3.105 (1.729)	3.462 (2.083)
Practices on test item format	4.000 (1.961)	4.333 (1.915)	3.579 (1.865)	4.346 (1.853)
Gives commercial practice tests	2.500 (1.557)	3.333 (2.289)	1.895 (1.197)	2.885 (1.818)
Practices on old test forms	1.857 (1.460)	2.333 (1.877)	1.421 (1.216)	1.680 (1.626)
Teaches test-taking strategies	4.786 (1.718)	4.933 (1.534)	3.263 (1.628)	4.923 (1.547)
Overall time spent on test preparation	16.714 (5.649)	18.533 (7.680)	13.263 (5.971)	17.231 (6.772)

1=None 2=At Most a Day 3=A Few Days

4=A Week 5=A Month 6=Regularly Throughout The Year

TABLE 14

Extent of Instructional Renewal and Its Change Over the Last Three Years by Test Score Trend

	Increasing Scores n=14	Decreasing Scores n=16	Same Scores n=20	Fluctuating Scores n=26
Programmatic efforts to improve student learning	2.30 (.63) up	1.93 (.79) same	1.82 (.80) same	2.67 (.63) up
Innovative instructional strategies	2.28 (.82) same	1.93 (.85) same	1.77 (.73) same	2.33 (.63) same
Support for schoolwide or grade level planning	2.15 (.81) up	1.68 (.79) same	1.50 (.70) same	2.04 (.75) same
Efforts to improve school or class climate	2.23 (.83) up	1.87 (.88) same	1.88 (.67) same	2.41 (.77) up
Efforts to improve student interest in learning	2.21 (.57) same	1.62 (.61) same	2.00 (.76) same	2.04 (.53) same
Opportunity for students to choose what they want to study	1.64 (.84) same	1.18 (.40) same	1.38 (.69) same	1.25 (.44) same
Student's pride in school	2.35 (.63) up	1.75 (.68) same	2.05 (.72) same	2.24 (.72) same

1=Weak 2=Moderate 3=Strong

TABLE 15

Subject Focus and Its Change Over
the Last Three Years by Test Score Trend

	Increasing Scores n=14	Decreasing Scores n=16	Same Scores n=20	Fluctuating Scores n=26
Drilling students in basic skills	1.84 (.68) same	2.60 (.50) same	2.57 (.50) same	2.48 (.71) same
Fine Arts	1.92 (.73) same	1.85 (.86) same	1.62 (.71) same	1.88 (.83) same
Science	1.42 (.64) up	2.07 (.61) same	75 (.57) same	2.00 (.57) same
Subjects which are not tested	1.92 (.64) same	2.06 (.70) same	2.05 (.42) same	2.16 (.55) same
Higher order thinking/problem-solving	2.50 (.51) up	2.18 (.75) same	2.21 (.53) same	2.64 (.49) up
Test preparation	2.07 (.91) same	2.43 (.62) same	1.89 (.73) same	1.87 (.74) same

1=Litte 2=Moderate 3=A Lot

TABLE 16

Job Satisfaction and Its Change Over
the Last Three Years by Test Score Trend

	Increasing Scores n=14	Decreasing Scores n=16	Same Scores n=20	Fluctuating Scores n=26
Teacher control over classroom program	2.64 (.63) same	2.56 (.51) same	2.75 (.44) same	2.72 (.45) same
Use of teachers' professional judgment	2.28 (.72) same	2.43 (.62) same	2.50 (.68) same	2.52 (.77) same
Ability to meet individual student needs	2.21 (.57) same	1.81 (.40) down	2.25 (.71) same	2.39 (.58) same
Teacher's influence on school decision-making	2.35 (.84) up	2.12 (.71) up	2.20 (.76) up	2.29 (.85) up
Pressure to cover all required curriculum	2.28 (.91) same	2.12 (.71) same	1.78 (.63) same	2.00 (.57) same
Ability to cover one subject thoroughly	2.21 (.80) same	2.18 (.65) same	2.27 (.57) same	2.29 (.62) same

1=Weak 2=Moderate 3=Strong

TABLE 16 Job Satisfaction and Its Change Over the Last Three Years by Test Score Trend (Cont'd.)

	Increasing Scores n=14	Decreasing Scores n=16	Same Scores n=20	Fluctuating Scores n=26
Image of teacher as an efficient educator	2.35 (.74) up	1.80 (.67) same	2.00 (.74) same	2.33 (.70) same
Satisfaction with my work	2.50 (.65) same	1.86 (.83) same	2.50 (.60) same	2.75 (.44) same
Overall job satisfaction	20.28 (3.07)	18.93 (2.40	21.72 (2.43)	20.58 (3.06)

1=Weak 2=Moderate 3=Strong

TABLE 17

Correlations Among Student, Teacher, School, and Testing Variables

	Chapter I	Pressure	Influence Planning	Time on Test Preparation	School Attention to Tests	Job Satis-faction	Control Over Class	Press to Cover Material	Pride
Chapter I	———								
Overall pressure to increase test scores	.3079 n=74 p=.004	———							
Overall influence of testing on instructional planning	.1453 n=73 p=.110	.3337 n=83 p=.001	———						
Overall time on test preparation	.2354 n=72 p=.023	.4850 n=82 p=.000	.7245 n=82 p=.000	———					
Overall school attention to test scores	.2670 n=68 p=.014	.3420 n=77 p=.001	.4619 n=77 p=.000	.3768 n=76 p=.000	———				
Overall job satisfaction	-.2303 n=66 p=.031	-.1166 n=76 p=.158	-.1019 n=75 p=.192	-.0975 n=74 p=.204	-.2488 n=71 p=.018	———			
Control over classroom instructional program	-.0995 n=74 p=.199	-.2031 n=83 p=.033	-.2250 n=82 p=.021	-.1566 n=81 p=.081	-.3233 n=76 p=.002	.7042 n=76 p=.000	———		
Pressure to cover all required materials	.2016 n=73 p=.044	.3267 n=83 p=.001	.2028 n=82 p=.034	.1219 n=81 p=.139	.2693 n=76 p=.009	-.0200 n=76 p=.432	-.0787 n=83 p=.240	———	
Overall pride in teaching	-.2580 n=75 p=.013	-.2351 n=84 p=.016	-.1310 n=83 p=.119	-.1463 n=82 p.095	-.1947 n=77 p=.045	.2903 n=76 p=.005	.1767 n=84 p=.054	.1102 n=83 p=.161	———